PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5388651

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
THOMAS DAVIES	10/24/2018
MICHAEL HALEY	10/24/2018
ARA DANIELYAN	10/24/2018
MORGAN FABIAN	10/25/2018

RECEIVING PARTY DATA

Name:	AUTODESK, INC.	
Street Address: 111 MCINNIS PARKWAY		
City:	SAN RAFAEL	
State/Country: CALIFORNIA		
Postal Code:	94903	

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16174110

CORRESPONDENCE DATA

Fax Number: (408)715-1201

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Phone: 4087151211

Email: jmatthews@artegislaw.com, ALGDocketing@artegislaw.com

Correspondent Name: ARTEGIS LAW GROUP LLP Address Line 1: 710 LAKEWAY, SUITE 185

Address Line 4: SUNNYVALE, CALIFORNIA 94085

ATTORNEY DOCKET NUMBER:	AUTO1444US1
NAME OF SUBMITTER:	JOHN C. CAREY
SIGNATURE:	/John C. Carey/
DATE SIGNED:	02/22/2019

Total Attachments: 8

source=AUTO1444US1_Assignment#page1.tif source=AUTO1444US1_Assignment#page2.tif source=AUTO1444US1_Assignment#page3.tif

PATENT 505341869 REEL: 048411 FRAME: 0467

source=AUTO1444US1_Assignment#page4.tif
source=AUTO1444US1_Assignment#page5.tif
source=AUTO1444US1_Assignment#page6.tif
source=AUTO1444US1_Assignment#page7.tif
source=AUTO1444US1_Assignment#page8.tif

PATENT REEL: 048411 FRAME: 0468

ASSIGNMENT FOR APPLICATION FOR PATENT WITH DECLARATION STATEMENT

W				

Names and Addresses of Inventors:

1)	Thomas DAVIES Toronto, ON M5A 2T4 Canada	2)	Michael HALEY San Rafael, CA USA
3)	Ara DANIELYAN Toronto, ON M2J 0A6 Canada	4)	Morgan FABIAN San Francisco, CA USA

(hereinafter referred to as Assignors), have invented a certain invention entitled:

SHAPED-BASED TECHNIQUES FOR EXPLORING DESIGN SPACES

enclosed herewith or for which	h application for Le	etters Patent in the	United	States was filed on
October 29, 2018	under Serial No.	16/174,110	; and	

WHEREAS, **AUTODESK**, **INC.**, a corporation of the State of Delaware, having a place of business at 111 McInnis Pkwy, San Rafael, California 94903 (hereinafter referred to as Assignee), is desirous of acquiring the entire right, title and interest in and to said application (hereinafter referred to as Application), and the invention disclosed therein (hereinafter referred to as Invention), and in and to all embodiments of the Invention, heretofore conceived, made or discovered by said Assignors, and in and to any and all patents, inventor's certificates and other forms of protection (hereinafter referred to as Patents) thereon granted in any and all countries and groups of countries.

NOW, THEREFORE, in consideration of good and valuable consideration acknowledged by said Assignors to have been received in full from said Assignee:

- 1. Said Assignors hereby sell, assign, transfer and convey to Assignee the full and exclusive right, title and interest (a) in and to said Application and said Invention; (b) in and to all rights to apply for patents on said Invention in any and all countries pursuant to the International Convention for the Protection of Industrial Property or otherwise; (c) in and to any and all Applications filed and any and all Patents granted on said Invention in any and all countries and groups of countries, including each and every Application filed and each and every Patent granted on any application which is a conventional, division, substitution, or continuation of said Application; and (d) in and to each and every reissue or extension of any of said Patents.
- 2. Said Assignors hereby covenant and agree to cooperate with said Assignee to enable said Assignee to enjoy to the fullest extent the right, title and interest to said Invention herein conveyed in any and all countries and groups of countries. Such cooperation by said Assignors shall include prompt production of pertinent facts and documents, giving testimony, execution of petitions, oaths, specifications, declarations or other papers, and other assistance all to the extent deemed necessary or desirable by said Assignee (a) for perfecting in said Assignee the right, title and interest herein conveyed; (b) for prosecuting any of said applications; (c) for filing and prosecuting substitute, conventional, divisional, continuing or additional applications covering said Invention; (d) for filing and prosecuting applications for reissuance of any of said Patents; (e) for interference or other priority proceedings involving said Invention; and (f) for legal proceedings involving said Invention and any application therefore and any Patents granted thereon, including without limitation opposition proceedings, cancellation proceedings, priority contests, public use proceedings, infringement actions and court

Page 1 of 2

actions; provided, however, that the expense incurred by said Assignors in providing such cooperation shall be paid for by said Assignee.

- 3. The term and covenants of this agreement shall inure to the benefit of said Assignee, its successors, assigns and other legal representatives, and shall be binding upon said Assignors, their respective heirs, legal representatives and assigns.
- 4. Said Assignors hereby warrant and represent that they have not entered and will not enter into any assignment, contract, or understanding in conflict herewith.
- 5. In the event that the filing date and/or Application No. of said Invention are not entered above at the time Assignors execute this document, and if such information is deemed necessary, Assignors hereby authorize and request the attorney/agent(s) of **Artegis Law Group, LLP**, to insert above the filing date and/or Application No. of said application.
 - 6. This declaration is directed to the attached application, or (if following box is checked):

United States applica	ation or PCT inte	ernational application numbe	ï
16/174,110	filed on	October 29, 2018	

As a below named inventor, I hereby declare that:

The above-identified application was made or authorized to be made by me;

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application; and

I acknowledge that any willful false statement made in this declaration is punishable under section 1001 of title 18 by fine or imprisonment of not more than 5 years, or both.

IN WITNESS WHEREOF, the said Assignors have executed and delivered this instrument to said Assignee on the dates indicated below.

1)	10/24/18 (DATE)	Thomas DAVIES
2)	(DATE)	Michael HALEY
3)	(DATE)	Ara DANIELYAN
4)	(DATE)	Morgan FABIAN

ASSIGNMENT FOR APPLICATION FOR PATENT WITH DECLARATION STATEMENT

۱۸	H	ᆦ		R	E	Δ	C	
		•	B	* *	2	~	د.و	

Names and Addresses of Inventors:

1)	Thomas DAVIES Toronto, ON M5A 2T4 Canada	2)	Michael HALEY San Rafael, CA USA
3)	Ara DANIELYAN Toronto, ON M2J 0A6 Canada	4)	Morgan FABIAN San Francisco, CA USA

(hereinafter referred to as Assignors), have invented a certain invention entitled:

SHAPED-BASED TECHNIQUES FOR EXPLORING DESIGN SPACES

enclosed herewith or for which	h application for Le	etters Patent in the	United Sta	tes was filed on
October 29, 2018	under Serial No.	16/174,110	; and	

WHEREAS, **AUTODESK**, **INC.**, a corporation of the State of Delaware, having a place of business at 111 McInnis Pkwy, San Rafael, California 94903 (hereinafter referred to as Assignee), is desirous of acquiring the entire right, title and interest in and to said application (hereinafter referred to as Application), and the invention disclosed therein (hereinafter referred to as Invention), and in and to all embodiments of the Invention, heretofore conceived, made or discovered by said Assignors, and in and to any and all patents, inventor's certificates and other forms of protection (hereinafter referred to as Patents) thereon granted in any and all countries and groups of countries.

NOW, THEREFORE, in consideration of good and valuable consideration acknowledged by said Assignors to have been received in full from said Assignee:

- 1. Said Assignors hereby sell, assign, transfer and convey to Assignee the full and exclusive right, title and interest (a) in and to said Application and said Invention; (b) in and to all rights to apply for patents on said Invention in any and all countries pursuant to the International Convention for the Protection of Industrial Property or otherwise; (c) in and to any and all Applications filed and any and all Patents granted on said Invention in any and all countries and groups of countries, including each and every Application filed and each and every Patent granted on any application which is a conventional, division, substitution, or continuation of said Application; and (d) in and to each and every reissue or extension of any of said Patents.
- 2. Said Assignors hereby covenant and agree to cooperate with said Assignee to enable said Assignee to enjoy to the fullest extent the right, title and interest to said Invention herein conveyed in any and all countries and groups of countries. Such cooperation by said Assignors shall include prompt production of pertinent facts and documents, giving testimony, execution of petitions, oaths, specifications, declarations or other papers, and other assistance all to the extent deemed necessary or desirable by said Assignee (a) for perfecting in said Assignee the right, title and interest herein conveyed; (b) for prosecuting any of said applications; (c) for filing and prosecuting substitute, conventional, divisional, continuing or additional applications covering said Invention; (d) for filing and prosecuting applications for reissuance of any of said Patents; (e) for interference or other priority proceedings involving said Invention; and (f) for legal proceedings involving said Invention and any application therefore and any Patents granted thereon, including without limitation opposition proceedings, cancellation proceedings, priority contests, public use proceedings, infringement actions and court

Page 1 of 2

actions; provided, however, that the expense incurred by said Assignors in providing such cooperation shall be paid for by said Assignee.

- 3. The term and covenants of this agreement shall inure to the benefit of said Assignee, its successors, assigns and other legal representatives, and shall be binding upon said Assignors, their respective heirs, legal representatives and assigns.
- 4. Said Assignors hereby warrant and represent that they have not entered and will not enter into any assignment, contract, or understanding in conflict herewith.
- 5. In the event that the filing date and/or Application No. of said Invention are not entered above at the time Assignors execute this document, and if such information is deemed necessary, Assignors hereby authorize and request the attorney/agent(s) of **Artegis Law Group, LLP**, to insert above the filing date and/or Application No. of said application.

6.	This declaration is	directed to the	attached application,	, or (if following	box is checked):
----	---------------------	-----------------	-----------------------	--------------------	------------------

[] United States application or PCT international application number 16/174,110 filed on October 29, 2018 .

As a below named inventor, I hereby declare that:

The above-identified application was made or authorized to be made by me;

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application; and

I acknowledge that any willful false statement made in this declaration is punishable under section 1001 of title 18 by fine or imprisonment of not more than 5 years, or both.

IN WITNESS WHEREOF, the said Assignors have executed and delivered this instrument to said Assignee on the dates indicated below.

1)	(DATE)	
2)	10/24/2018 (DATE)	Thomas DAVIES Michael HALEY
3)	(DATE)	Ara DANIELYAN .
4)	(DATE)	Morgan FABIAN

ASSIGNMENT FOR APPLICATION FOR PATENT WITH DECLARATION STATEMENT

WHEREAS:

Names and Addresses of Inventors:

1)	Thomas DAVIES Toronto, ON M5A 2T4 Canada	2)	Michael HALEY San Rafael, CA USA
3)	Ara DANIELYAN Toronto, ON M2J 0A6 Canada	4)	Morgan FABIAN San Francisco, CA USA

(hereinafter referred to as Assignors), have invented a certain invention entitled:

SHAPED-BASED TECHNIQUES FOR EXPLORING DESIGN SPACES

enclosed herewith or for whic	h application for Le	etters Patent in the	United State	s was filed on
October 29, 2018	under Serial No.	16/174.110	; and	

WHEREAS, **AUTODESK**, **INC.**, a corporation of the State of Delaware, having a place of business at 111 McInnis Pkwy, San Rafael, California 94903 (hereinafter referred to as Assignee), is desirous of acquiring the entire right, title and interest in and to said application (hereinafter referred to as Application), and the invention disclosed therein (hereinafter referred to as Invention), and in and to all embodiments of the Invention, heretofore conceived, made or discovered by said Assignors, and in and to any and all patents, inventor's certificates and other forms of protection (hereinafter referred to as Patents) thereon granted in any and all countries and groups of countries.

NOW, THEREFORE, in consideration of good and valuable consideration acknowledged by said Assignors to have been received in full from said Assignee:

- 1. Said Assignors hereby sell, assign, transfer and convey to Assignee the full and exclusive right, title and interest (a) in and to said Application and said Invention; (b) in and to all rights to apply for patents on said Invention in any and all countries pursuant to the International Convention for the Protection of Industrial Property or otherwise; (c) in and to any and all Applications filed and any and all Patents granted on said Invention in any and all countries and groups of countries, including each and every Application filed and each and every Patent granted on any application which is a conventional, division, substitution, or continuation of said Application; and (d) in and to each and every reissue or extension of any of said Patents.
- 2. Said Assignors hereby covenant and agree to cooperate with said Assignee to enable said Assignee to enjoy to the fullest extent the right, title and interest to said Invention herein conveyed in any and all countries and groups of countries. Such cooperation by said Assignors shall include prompt production of pertinent facts and documents, giving testimony, execution of petitions, oaths, specifications, declarations or other papers, and other assistance all to the extent deemed necessary or desirable by said Assignee (a) for perfecting in said Assignee the right, title and interest herein conveyed; (b) for prosecuting any of said applications; (c) for filing and prosecuting substitute, conventional, divisional, continuing or additional applications covering said Invention; (d) for filing and prosecuting applications for reissuance of any of said Patents; (e) for interference or other priority proceedings involving said Invention; and (f) for legal proceedings involving said Invention and any application therefore and any Patents granted thereon, including without limitation opposition proceedings, cancellation proceedings, priority contests, public use proceedings, infringement actions and court

Page 1 of 2

PATENT REEL: 048411 FRAME: 0473

actions; provided, however, that the expense incurred by said Assignors in providing such cooperation shall be paid for by said Assignee.

- 3. The term and covenants of this agreement shall inure to the benefit of said Assignee, its successors, assigns and other legal representatives, and shall be binding upon said Assignors, their respective heirs, legal representatives and assigns.
- 4. Said Assignors hereby warrant and represent that they have not entered and will not enter into any assignment, contract, or understanding in conflict herewith.
- 5. In the event that the filing date and/or Application No. of said Invention are not entered above at the time Assignors execute this document, and if such information is deemed necessary, Assignors hereby authorize and request the attorney/agent(s) of **Artegis Law Group**, **LLP**, to insert above the filing date and/or Application No. of said application.

6.	This declaration is directed to the attached application, or (if following box is checked):					
	, , , , , , , , , , , , , , , , , , ,	United States application 16/174,110		rnational application numl October 29, 2018		

As a below named inventor, I hereby declare that:

The above-identified application was made or authorized to be made by me;

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application; and

I acknowledge that any willful false statement made in this declaration is punishable under section 1001 of title 18 by fine or imprisonment of not more than 5 years, or both.

IN WITNESS WHEREOF, the said Assignors have executed and delivered this instrument to said Assignee on the dates indicated below.

1)	(DATE)	
,		Thomas DAVIES
2)	(DATE)	<i>(xxxxxxxxxxxxx</i>
χ.		Michael HALEY
3).	10/24/18 (DATE)	DOL
- 1		Ara DANIELYAN
4)	(DATE)	
'')	(D)	Morgan FABIAN

ASSIGNMENT FOR APPLICATION FOR PATENT WITH DECLARATION STATEMENT

W	8 8	-	7	_	Λ	\sim	_
VV		ì		L	_		

Names and Addresses of Inventors:

1)	Thomas DAVIES Toronto, ON M5A 2T4 Canada	2)	Michael HALEY San Rafael, CA USA
3)	Ara DANIELYAN Toronto, ON M2J 0A6 Canada	4)	Morgan FABIAN San Francisco, CA USA

(hereinafter referred to as Assignors), have invented a certain invention entitled:

SHAPED-BASED TECHNIQUES FOR EXPLORING DESIGN SPACES

enclosed herewith or for whic	h application for Le	etters Patent in the	United State	s was filed on
October 29, 2018	under Serial No.	16/174,110	; and	

WHEREAS, **AUTODESK, INC.**, a corporation of the State of Delaware, having a place of business at 111 McInnis Pkwy, San Rafael, California 94903 (hereinafter referred to as Assignee), is desirous of acquiring the entire right, title and interest in and to said application (hereinafter referred to as Application), and the invention disclosed therein (hereinafter referred to as Invention), and in and to all embodiments of the Invention, heretofore conceived, made or discovered by said Assignors, and in and to any and all patents, inventor's certificates and other forms of protection (hereinafter referred to as Patents) thereon granted in any and all countries and groups of countries.

NOW, THEREFORE, in consideration of good and valuable consideration acknowledged by said Assignors to have been received in full from said Assignee:

- 1. Said Assignors hereby sell, assign, transfer and convey to Assignee the full and exclusive right, title and interest (a) in and to said Application and said Invention; (b) in and to all rights to apply for patents on said Invention in any and all countries pursuant to the International Convention for the Protection of Industrial Property or otherwise; (c) in and to any and all Applications filed and any and all Patents granted on said Invention in any and all countries and groups of countries, including each and every Application filed and each and every Patent granted on any application which is a conventional, division, substitution, or continuation of said Application; and (d) in and to each and every reissue or extension of any of said Patents.
- 2. Said Assignors hereby covenant and agree to cooperate with said Assignee to enable said Assignee to enjoy to the fullest extent the right, title and interest to said Invention herein conveyed in any and all countries and groups of countries. Such cooperation by said Assignors shall include prompt production of pertinent facts and documents, giving testimony, execution of petitions, oaths, specifications, declarations or other papers, and other assistance all to the extent deemed necessary or desirable by said Assignee (a) for perfecting in said Assignee the right, title and interest herein conveyed; (b) for prosecuting any of said applications; (c) for filing and prosecuting substitute, conventional, divisional, continuing or additional applications covering said Invention; (d) for filing and prosecuting applications for reissuance of any of said Patents; (e) for interference or other priority proceedings involving said Invention; and (f) for legal proceedings involving said Invention and any application therefore and any Patents granted thereon, including without limitation opposition proceedings, cancellation proceedings, priority contests, public use proceedings, infringement actions and court

Page 1 of 2

actions; provided, however, that the expense incurred by said Assignors in providing such cooperation shall be paid for by said Assignee.

- 3. The term and covenants of this agreement shall inure to the benefit of said Assignee, its successors, assigns and other legal representatives, and shall be binding upon said Assignors, their respective heirs, legal representatives and assigns.
- 4. Said Assignors hereby warrant and represent that they have not entered and will not enter into any assignment, contract, or understanding in conflict herewith.
- 5. In the event that the filing date and/or Application No. of said Invention are not entered above at the time Assignors execute this document, and if such information is deemed necessary, Assignors hereby authorize and request the attorney/agent(s) of **Artegis Law Group, LLP**, to insert above the filing date and/or Application No. of said application.
 - This declaration is directed to the attached application, or (if following box is checked):

[] United States application or PCT international application number 16/174,110 filed on October 29, 2018 .

As a below named inventor, I hereby declare that:

The above-identified application was made or authorized to be made by me;

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application; and

I acknowledge that any willful false statement made in this declaration is punishable under section 1001 of title 18 by fine or imprisonment of not more than 5 years, or both.

IN WITNESS WHEREOF, the said Assignors have executed and delivered this instrument to said Assignee on the dates indicated below.

Page 2 of 2